

MAXIME KJAER

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EDUCATION

École Polytechnique Fédérale de Lausanne (EPFL)	September 2018–present
Carnegie Mellon University (Master's Thesis on exchange)	January 2021–present
Master in Computer Science, expected graduation August 2021	5.56/6.00 (current)
École Polytechnique Fédérale de Lausanne (EPFL)	September 2014–July 2018
Bachelor in Computer Science	5.13/6.00

WORK EXPERIENCE

Oracle Labs, Zürich July–December 2020
Student Intern

- Implemented the string inlining optimization in GraalVM Native Image Enterprise Edition, which improves footprint and throughput of most compiled applications.

Lab for Automated Reasoning and Analysis, EPFL, Lausanne March 2018–June 2020
Research/Teaching Assistant

- Helped code formal verification of refinement types in the Scala 3 compiler, ensuring stronger safety guarantees and helping catch bugs early.
- TA for the “Computer Language Processing”, “Parallelism and Concurrency” and “Advanced Compiler Construction” courses. Helped create and grade code assignments, answered student questions.

Scala Center, EPFL, Lausanne August 2017–July 2018
Teaching Assistant

- Answered 250+ student questions in the “Big Data Analysis with Scala and Spark” and “Functional Programming in Scala Capstone” online courses.
- Improved the Capstone course’s code project, raising reported satisfaction rates from 77% to 95%.

PROJECTS

tf-dotty (Scala) September 2019–January 2020
github.com/MaximeKjaer/tf-dotty

- Wrote a strongly typed TensorFlow interface in Scala, which checks tensor shapes at compile-time in order to prevent runtime errors in machine learning models.
- Implemented Scala 3 compiler features for computing arithmetic operations at the type-level.

HashML (TypeScript) September 2017–September 2019
github.com/hashml/hasml

- Co-invented a markup language for structured documents.
- Wrote an incremental compiler with schema verification for my Bachelor project with the LAMP lab (creators of the Scala programming language); obtained the top grade.
- Developed the idea of a platform for collaborative document editing in a Swiss Innovation Agency startup course, and won the course award.

kjaer.io (Web) November 2014–present
github.com/MaximeKjaer/kjaer.io

- Coding and writing technical articles, class notes and write-ups of personal projects on my site.
- Made the front page of Hacker News, and was cited by Smashing Magazine and the EU Agency for Network and Information Security, among others. Has about 70k page views.

LANGUAGES

English (fluent, CAE C2), French (native), Danish (native), German (intermediate)